AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method ~~Method~~ of processing polychromatic attenuation values, wherein the polychromatic attenuation values are acquired by means of a polychromatic source of radiation generating a cone beam and radiation detector array with a plurality of detector rows, wherein the plurality of detector rows are arranged adjacent to each other in a first direction perpendicular to a second direction, wherein the second direction is parallel to the plurality of detector rows, the method comprising the step of:

assigning ~~the~~ monochromatic attenuation values to polychromatic attenuation values;

wherein the polychromatic attenuation values depend on the first direction;

wherein a look-up table is used for assigning the monochromatic attenuation values to the polychromatic attenuation values.

2. (Currently amended) The method ~~Method~~ of claim 1,

wherein the look-up table is [[a]] three-dimensional look-up table ~~is used for assigning the monochromatic attenuation values to the polychromatic attenuation values~~; and

wherein the assignment of the monochromatic attenuation values to the polychromatic attenuation values which depend on the first direction is such that artifacts caused by a heel effect are at least partially suppressed.

3. (Original) The method of claim 1, wherein the look-up table is generated in accordance with the following steps:

determining a spectrum of the source of radiation;

determining mean energies of the spectrum;

determining first projection data by taking into account the polychromatic source of radiation, the detector array and a calibration object;

determining second projection data by taking into account a monochromatic source of radiation, the detector array and the calibration object;

generating a three-dimensional look-up table on the basis of the first and second projection data;

wherein the three-dimensional look-up table comprises monochromatic attenuation values for all corresponding polychromatic attenuation values for each detector row of the plurality of detector rows.

4. (Currently amended) A method ~~Method~~ of generating a look-up table for correcting polychromatic attenuation values acquired by means of a polychromatic source of radiation generating a cone beam and a radiation detector array with a plurality of detector rows, wherein the source of radiation has a spectrum, the method comprising the steps of:

determining mean energies of the spectrum;

determining first projection data by taking into account the polychromatic source of radiation, the detector array and a calibration object;

determining second projection data by taking into account a monochromatic source of radiation, the detector array and the calibration object;

generating a three-dimensional look-up table on the basis of the first and second projection data;

wherein the three-dimensional look-up table comprises monochromatic attenuation values for all corresponding polychromatic attenuation values for each detector row of the plurality of detector rows.

5. (Currently amended) The method ~~Method~~ of claim 4,

wherein the plurality of detector rows is arranged adjacent to each other in a first direction perpendicular to a second direction which is parallel to the plurality of detector rows;

wherein the monochromatic attenuation values depend on the first direction; and

wherein the correction is such that artifacts relating to one of a beam-hardening effect and a heel effect are at least partially suppressed.

6. (Currently amended) A data ~~Data~~ processing device comprising:

a memory for storing polychromatic attenuation values; and

a data processor for processing the polychromatic attenuation values, wherein the data processor is adapted to perform the following operation:

loading the polychromatic attenuation values acquired by means of a polychromatic source of radiation generating a cone beam and radiation detector array with a plurality of detector rows, wherein the plurality of detector rows is arranged adjacent to each other in a first direction perpendicular to a second direction which is parallel to the plurality of detector rows; and

assigning the polychromatic attenuation values to monochromatic attenuation values which depend on the first direction;

wherein a three-dimensional look-up table is used for assigning the monochromatic attenuation values to the polychromatic attenuation values.

7. (Currently amended) The data processing ~~procession~~ device of claim 6,

wherein the data processing device is part of a CT scanner system~~; and~~

wherein the assignment of the monochromatic attenuation values to the polychromatic attenuation values which depend on the first direction is such that artifacts caused by one of a beam-hardening and heel effect are at least partially suppressed.

8. (Currently amended) A data ~~Data~~ processing device comprising:

a memory for storing polychromatic attenuation data; and

a data processor for generating a look-up table for correcting polychromatic attenuation values acquired by means of a polychromatic source of radiation generating a cone beam and radiation detector array with a plurality of detector rows, wherein the source of radiation has a spectrum and wherein the data processor is adapted to perform the following operation:

determining mean energies of the spectrum;

determining first projection data by taking into account the polychromatic source of radiation, the detector array and a calibration object;

determining second projection data by taking into account a monochromatic source of radiation, the detector array and the calibration object;

generating a three-dimensional look-up table on the basis of the first and second projection data;

wherein the three-dimensional look-up table comprises monochromatic attenuation values for all corresponding polychromatic attenuation values for each detector row of the plurality of detector rows.

9. (Original) The data processing device of claim 8,

wherein the data processing device is part of a CT scanner system; and

wherein the correction is such that artifacts relating to a heel effect are at least partially suppressed.

10. (Currently amended) A computer-readable medium containing instructions ~~Computer program~~ for processing polychromatic attenuation values, wherein the ~~computer program~~ instructions causes a processor to perform the following operation when the ~~computer program is~~ instructions are executed on the processor:

loading the polychromatic attenuation values acquired by means of a polychromatic source of radiation generating a cone beam and radiation detector array

with a plurality of detector rows, wherein the plurality of detector rows is arranged adjacent to each other in a first direction perpendicular to a second direction which is parallel to the detector rows; and

assigning the monochromatic attenuation values to polychromatic attenuation values which depend on the first direction;

wherein a three-dimensional look-up table is used for assigning the monochromatic attenuation values to the polychromatic attenuation values.

11. (Currently amended) A computer-readable medium containing instructions ~~Computer program~~ for generating a look-up table for correcting polychromatic attenuation values acquired by means of a polychromatic source of radiation generating a cone beam and radiation detector array with a plurality of detector rows, wherein the source of radiation has a spectrum, wherein the ~~computer program causes~~ instructions cause a processor to perform the following operation when the ~~computer program is~~ instructions are executed on the processor:

determining mean energies of the spectrum;

determining first projection data by taking into account the polychromatic source of radiation, the detector array and a calibration object;

determining second projection data by taking into account a monochromatic source of radiation, the detector array and the calibration object;

generating a three-dimensional look-up table on the basis of the first and second projection data;

wherein the three-dimensional look-up table comprises monochromatic attenuation values for all corresponding polychromatic attenuation values for each detector row of the plurality of detector rows.

12. (New) The method of claim 1, wherein the plurality of detector rows is seven detector rows.

13. (New) The method of claim 1, wherein the polychromatic attenuation values depend on a cone angle of the cone beam.

14. (New) The method of claim 1, further including outputting an image using the polychromatic attenuation values and the monochromatic attenuation values.

15. (New) The data processing device of claim 6, wherein the plurality of detector rows is seven detector rows.

16. (New) The data processing device of claim 6, wherein the polychromatic attenuation values depend on a cone angle of the cone beam.

17. (New) The data processing device of claim 6, further including a display for displaying an image output using the polychromatic attenuation values and the monochromatic attenuation values.

18. (New) The data processing device of claim 6, further including a loudspeaker connected to the data processor to output an alarm.

19. (New) The computer-readable medium of claim 10, the instructions further causing the processor to output an image using the polychromatic attenuation values and the monochromatic attenuation values.

20. (New) The computer-readable medium of claim 11, the instructions further causing the processor to output an image using the polychromatic attenuation values and the monochromatic attenuation values.